

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/010232

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ G02B6/12, G02F1/01, G02F1/313, G02F1/377, H01S3/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ G02B6/12, G02F1/01, G02F1/313, G02F1/377, H01S3/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2001-343539 A (Nippon Telegraph And Telephone Corp., NTT Advanced Technology Corp.), 14 December, 2001 (14.12.01), Par. Nos. [0039], [0058] (Family: none)	30, 31, 45 44, 46-50
Y	JP 2001-108611 A (System Instruments Kabushiki Kaisha), 20 April, 2001 (20.04.01), Par. Nos. [0017], [0020]; Fig. 1 (Family: none)	35-40
Y	JP 2001-305367 A (Sharp Corp.), 31 October, 2001 (31.10.01), Claim 2; Fig. 2 (Family: none)	41, 42

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
12 October, 2004 (12.10.04)Date of mailing of the international search report
02 November, 2004 (02.11.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 61-249004 A (Hitachi, Ltd.), 06 November, 1986 (06.11.86), Full text; Figs. 1, 3 to 9 (Family: none)	51
P,A	JP 2003-215362 A (Nippon Sheet Glass Co., Ltd.), 30 July, 2003 (30.07.03), Full text; Figs. 4 to 24 & US 2003/0142385 A1 & FR 2835064 A1 & DE 10302338 A1	1,2,4-22, 24-29

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Continuation of Box No.II-2 of continuation of first sheet(2)

The relation ' $s\lambda/2\cos\phi_0 \leq 2L < (s+1)\lambda/2\cos\phi_0$ ' stated in claim 3, the relation ' $s\lambda_0\cos\phi/2\sin\phi_0 \leq 2L < (s+1)\lambda_0\cos\phi/2\sin\phi_0$ ' stated in claim 32, the relation ' $s\lambda_0\cos\phi/2 \leq 2L$ ' stated in claim 33, and the relation ' $s\lambda_0\cos\phi/2 \leq 2L < (s+1)\lambda_0\cos\phi/2$ ' stated in claim 34 are all not mentioned in the description. Therefore, even considering the technical knowledge at the time of the application, their technical meanings cannot be understood. Consequently, the inventions of claims 3, 32-34 are not supported by the disclosure of the description within the meaning of PCT Article 6. The technical meaning of the relation ' $s\lambda/2\cos\phi_0 \leq 2L < (s+1)\lambda/2\cos\phi_0$ ' stated in claim 23 cannot be understood even considering the technical knowledge at the time of the application. Therefore, the invention of claim 23 is not supported by the disclosure of the description within the meaning of PCT Article 6. No specific example of the invention of claim 43 is given in the description. Therefore, even considering the technical knowledge at the time of the application, the technical meaning cannot be understood. Consequently, the invention of claim 43 is not supported by the disclosure of the description within the meaning of PCT Article 6.

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 3, 23, 32-34, 43
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
(See extra sheet.)
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.